

CALCULATION OF INDICATIVE FIRE DAMAGE ZONE

This document is for internal and contract specific use only.

Disclaimer

NGG and NGET or their agents, servants or contractors do not accept any liability for any losses arising under or in connection with this information. This limit on liability applies to all and any claims in contract, tort (including negligence), misrepresentation (excluding fraudulent misrepresentation), breach of statutory duty or otherwise. This limit on liability does not exclude or restrict liability where prohibited by the law nor does it supersede the express terms of any related agreements."

PURPOSE AND SCOPE

The purpose of this document is to provide operational guidance on how to calculate an indicative Fire Damage Zone on Fire hazard equipment at National Grid Electricity substations. Fire hazard equipment includes the following as detailed in TS 3.01.03 Clause 2.1.

- Oil-filled Transformers
- Oil-filled Reactors
- Diesel Generators
- Oil Storage Tanks (Including Fuel Oil)
- Oil Circuit Breakers
- Oil Handling Plant

The scope is limited to existing equipment and should not be used to determine Fire Damage Zones for new installations.

Please consult TS 3.01.03 Limitations of Fire Risk in Substations for detailed treatment of fire hazards.

PART 1 –PROCEDURAL

1 ESTIMATING FIRE DAMAGE ZONE

When a fire occurs on any Fire Hazard equipment it creates a fire damage zone in which anything within the zone is likely to be adversely affected by the fire.

To calculate indicative fire damage zones (FDZ) the following process shall be followed:-

- a) Identify the Fire hazard
- b) Using Figure 1 identify and measure the Fire Pool Diameter A of the bund wall in metres.
- c) Using Graph 1 use the Fire Pool Diameter A to select the Separation Distance (m).
- d) Using the Separation distance mark the Fire Damage Zone.
- e) Repeat to find Separation Distance B and mark the Fire Damage Zone.
- f) Where there is no bund and for equipment with less than 200 litres the FDZ shall be 10 m around the said equipment.

2 CRITICAL EQUIPMENT

Identify all items within the Fire Damage Zone that might be required in or der to manage the fire emergency, or which might pose an additional risk to personnel dealing with the incident, for example, acetylene cylinders. Those that can be easily relocated should be removed from the fire damage zone to a safe area. Local emergency procedures must recognise and take account of critical equipment that cannot be moved.

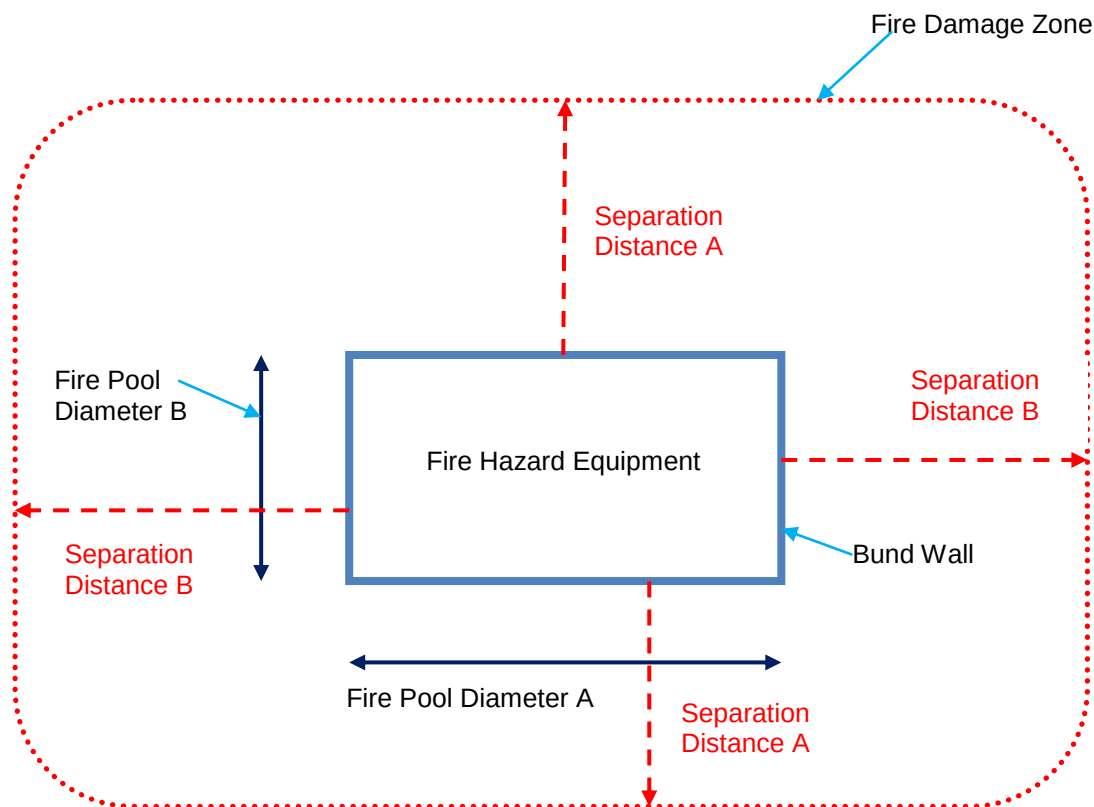
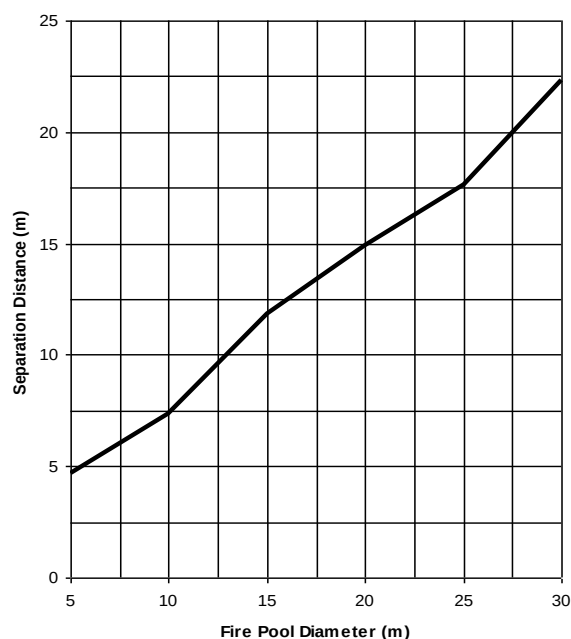


Figure 1:- Estimating Fire Damage Zone



Graph 1:- Estimating Fire Damage Zone